

CLAIMS

1. An electronic endoscope provided with a three-dimensional image capturing device, comprising:

a housing;

5 a distance-measuring light source that outputs a distance-measuring light beam, which is a pulsed light beam and which is irradiated to a subject so that a first reflected light beam is generated by said subject;

10 a distance-measurement imaging device that receives said first reflected light beam, to accumulate electric charges in accordance with the received amount of said first reflected light beam;

15 a flexible tube that is connected to said housing, and that has an optic fiber along which at least one of said distance-measuring light beam and said first reflected light beam is transmitted; and

20 a three-dimensional image sensing processor that controls the accumulating operation of said distance-measurement imaging device, to generate electric charges corresponding to a three-dimensional image of said subject.

2. An electronic endoscope according to claim 1, wherein said distance-measuring light source is provided in said housing.

25 3. An electronic endoscope according to claim 2, wherein

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said distance-measurement imaging device is provided in said housing.

4. An electronic endoscope according to claim 1, wherein said three-dimensional image-sensing processor controls the accumulating operation in accordance with the length of said optic fiber.

5. An electronic endoscope according to claim 4, further comprising an illuminating light source that outputs an illuminating light beam, and a light-transmitting optical element that leads said distance-measuring light beam and said illuminating light beam to said optic fiber, said distance-measuring light source and said illuminating light source being disposed so as to face said light-transmitting optical element.

6. An electronic endoscope according to claim 5, further comprising a light-receiving optical element disposed in such a manner that said first reflected light beam, output from said optic fiber, enters said light-receiving optical element, said distance-measurement imaging device, and a two-dimensional image-sensing imaging device being disposed so as to face said light-receiving optical element.

7. An electronic endoscope according to claim 4, wherein said three-dimensional image sensing processor controls the accumulating operation in such a manner that a timing of the accumulating operation is delayed depending on the length of

said optic fiber.

8. An electronic endoscope according to claim 1, further comprising an illuminating light source that continuously irradiates an illuminating light beam to said subject so that
5 a second reflected light beam is generated by said subject, and a two-dimensional image-sensing imaging device that receives said second reflected light beam, to sense a two-dimensional image of said subject.

9. An electronic endoscope according to claim 8, wherein
10 said illuminating light source is provided in said housing.

10. An electronic endoscope according to claim 8, wherein said two-dimensional image-sensing imaging device is provided in said housing.

11. An electronic endoscope according to claim 8, wherein
15 said optic fiber comprises a light-transmitting optic fiber that irradiates said distance-measuring light beam and/or said illuminating light beam on said subject, and a light-receiving optic fiber that receives said reflected light beam generated by said subject.

12. An electronic endoscope according to claim 11, wherein
20 said flexible tube is provided with a memory in which information indicating the length of each of said light-transmitting optic fiber and said light-receiving optic fiber is stored.